List of Tables

ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 071034001
Discharger	Contra Costa County Sanitation District No. 5
Name of Facility	Port Costa Wastewater Treatment Plant (WWTP)
Facility Address	End of Canyon Lake Drive Port Costa, CA 94569 Contra Costa County
Facility Contact, Title and Phone	Warren Lai, Assistant Civil Engineer, (925) 313-2180
Authorized Person to Sign and Submit Reports	Warren Lai, Assistant Civil Engineer, (925) 313-2180
Mailing Address	255 Glacier Drive Martinez, CA 94553
Billing Address	SAME
Type of Facility	Publicly Owned Treatment Works
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	B
Pretreatment Program	No
Reclamation Requirements	No
Facility Permitted Flow	0.025 million gallons per day (mgd) (average dry weather)[1]
Facility Design Flow	0.033 mgd (average dry weather treatment capacity)
Watershed	Suisun Basin Watershed
Receiving Water	Carquinez Strait
Receiving Water Type	San Francisco Bay Estuary

Footnotes for Table F-1:
(1) Following completion of all requirements of Time Schedule Order No. R2-2005-0057 and approval by the Executive Officer, the average dry weather flow limitation shall increase to 0.033 mgd.

A. Contra Costa County Sanitation District No. 5 (hereinafter the Discharger) owns the Port Costa Wastewater Treatment Plant (WWTP), a publicly owned treatment works. The facility is currently operated by HS Operating Services (3 Rolph Park Ct., Crockett, CA 94525). The Discharger owns the property at Canyon Lake Drive, Port Costa, CA 94569 on which the facility is located.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The facility discharges treated wastewater to the Carquinez Strait, a water of the United States, and is currently regulated by Order No. R2-2003-0009 which was adopted on January 22, 2003 and expired on December 31, 2007. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit requirements are adopted pursuant to this Order. In addition, the Discharger is under Time Schedule Order R2-2005-0057, which requires treatment plant upgrades.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on June 29, 2007. The application was deemed complete on October 10, 2007.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger owns the Port Costa WWTP and collection system, which is operated by a contract operating service (at this time, HS Operating Services, 3 Rolph Park Ct., Crockett, CA 94525). The facility provides secondary treatment of wastewater from domestic and, to a lesser extent, commercial sources within the community of Port Costa. The Discharger owns the sewer collection system, which consists of a few miles of terra-cotta pipe and is maintained by the operator.

The facility has a current dry weather design treatment capacity of 0.033 mgd. The Discharger reported a daily average flow of 0.02 mgd from April 2003 through April 2007 and a maximum daily flow rate of 0.14 mgd during that period.

Wastewater from the community of Port Costa is conveyed by gravity to an 86,000 gallon capacity, baffled septic tank where primary sedimentation occurs. From the septic tank, the primary-treated wastewater flows by gravity to a wet well where it mixes with treated wastewater from the sand/gravel filter beds at a ratio of approximately four or five parts of treated wastewater to one part primary-treated septic tank effluent. After mixing, the treated wastewater is pumped to a dosing structure, which distributes the treated wastewater to sand/gravel filter beds. From the sand/gravel beds, a portion of the treated wastewater is routed back to the wet well to mix with primary-treated septic tank effluent. The remaining treated wastewater flows over a V-notch weir into a contact chamber, where it is chlorinated, and then dechlorinated with sulfur dioxide.

Treated, dechlorinated wastewater is discharged from Discharge Point 001 through a submerged outfall and diffuser to Carquinez Strait, a water of the United States. The diffuser is located approximately 60 feet offshore, at a depth of about 17.5 feet below mean lower low water at 38°, 02', 55" N. Latitude; 122°, 10', 56" W. Longitude.

The Discharger removes solids from its septic tank for disposal at a septage tank receiving station (e.g., Central Contra Costa Sanitary District WWTP in Martinez, CA).

All storm water captured within the wastewater treatment plant storm drain system is directed to the headworks of the treatment plant and treated to the standards contained in this Order. The facility is

therefore exempt from coverage under the Statewide Industrial Storm Water Permit (NPDES General Permit No. CAS000001).

B. Discharge Points and Receiving Waters

The location of the Port Costa WWTP outfall and its receiving water are shown in Table F-2 below.

Table F-2. Outfall Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary treated POTW Effluent	38 °, 02', 55" N	122°, 10', 56" W	Carquinez Strait

Carquinez Strait is located between San Pablo Bay and Suisun Bay within the Suisun Basin watershed.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the previous Order (Order No. R2-2003-0009) for discharges to Carquinez Strait and representative monitoring data from the term of the previous Order are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations			Monitoring Data (From January 2002 To April 2007)
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Discharge
Oil and Grease	mg/L	10	---	20	13.6
pH	standard units	---	---	6.0 – 9.0	6.0 – 9.0
TSS	mg/L	30	45	---	20
Acute Toxicity	% survival	(1)	(1)	(1)	(1)
BOD_5	mg/L	30	45	---	31
Total Coliform Bacteria	MPN/ 100 mL	(2)	(2)	(2)	500
Total Residual Chlorine	mg/L	---	---	0.0	2.6

Footnotes for Table F-3:

(1) Acute Toxicity Effluent Limits and Monitoring Data:
  (a) Effluent Limitations: The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be:
    (i) A 3-sample median value of not less than 90 percent survival (b(1)) ; and
    (ii) A 1-sample 90th value of not less than 70 percent survival.
  (b) Monitoring Data: Acute toxicity monitoring conducted during the term of the previous permit showed:
    (i) Nineteen acute toxicity tests were conducted from June 2002 to March 2007
    (ii) Seventeen tests resulted in survival rates greater than 90%.
    (iii) Two tests resulted in survival rates less than 90% and greater than 70%.
    (iv) No tests resulted in survival rates less than 70%.

(2) The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following bacteriological limits: The moving median value of most probable number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPN/100 mL; and, any single sample shall not exceed 10,000 MPN/mL.

Table F-4. Historic Effluent Limitations and Monitoring Data for Toxic Pollutants

Parameter	Units	Effluent Limitations		Monitoring Data (From June 2002 To April 2007)
		Monthly Average	Daily Maximum	Daily Maximum
Copper	µg/L	---	37 (1)	23

Footnotes for Table F-4:

(1) Interim limit

D. Compliance Summary

1. **Compliance with Numeric Effluent Limits.** Exceedances of numeric effluent limits were observed during the permit term for acute toxicity and total residual chlorine. The exceedances are summarized in Table F-5 below:

Table F-5. Exceedances of Numeric Effluent Limits

Date of Violation	Exceeded Parameter	Units	Effluent Limitation	Reported Concentration
March 18, 2003	3-sample median toxicity	% survival	90	85
April 30, 2003	Chlorine Residual – Instantaneous Maximum	mg/L	0.0	1.0
June 9, 2003	Chlorine Residual – Instantaneous Maximum	mg/L	0.0	2.6

E. Planned Changes

1. Time Schedule Order No. R2-2005-0057 limits the WWTP's average dry weather flow to 0.025 mgd until the Discharger certifies that it has made the necessary repairs to the sand filter beds. The following tasks are required by TSO No. R2-2005-0057; and, in accordance with the TSO, must be completed by November 30, 2007. To meet this deadline, the Discharger has received a loan from the Contra Costa County Board of Supervisors.

Tasks

(1) Removal and replacement of the impacted sand filter in beds No. 1, 2 and 3
(2) Repair of filter bed No. 4
(3) Remove and replace liner in filter bed No. 2
(4) Obtain temporary railroad crossing permit
(5) Build temporary railroad crossing structure and hire flagman
(6) Install new chemical feed equipment
(7) Install standby generator for emergency power
(8) Install auto-dialer alarm for equipment
(9) Install redundancy pumps
(10) Fix siphons on the dosing structure
(11) Replace piping for No. 3 and 4 disinfection pumps

2. The Discharger will transfer ownership of this facility to Crockett Community Services District after all of the requirements of TSO No. R2-2005-0057, as described above, are fulfilled.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** *The Water Quality Control Plan for the San Francisco Bay Basin* (the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board, USEPA, and the Office of Administrative Law, as required. The latest version of the Basin Plan became effective on December 22, 2006. Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority toxic pollutants, which are applicable to Carquinez Strait.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000)(codified at 40 CFR §131.21)]. Under the

revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restriction on BOD_5, TSS, oil and grease, pH and chlorine residual. Restrictions on these pollutants are specified in federal regulations and in the Basin Plan. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA.

   WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs for toxic pollutants were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR §131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date are, nonetheless, "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR §131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR §131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and are the applicable water quality standards for purposes of the CWA.

6. **Antidegradation Policy.** 40 CFR §131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings.

   The permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution No. 68-16, and the final limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation. This is because this Order does not provide for an increase in the permitted design flow, allow for a reduction in the level of treatment, or increase effluent limitations with the exception of copper.

   For copper, this Order establishes final WQBELs, whereas the previous permit included an interim limit. Although the final WQBELs are above the previous interim limitation, the

concentration of copper discharges is unlikely to change because the Discharger proposes no changes to its treatment process. The Discharger will maintain current treatment performance for copper because it cannot manipulate its process to adjust effluent copper levels independently of other treatment parameters. To maintain compliance with other effluent limits, the Discharger will maintain its current performance with respect to copper. Moreover, pollution minimization requirements are designed to maintain current performance.

Additionally, this Order established alternate limits for copper based on site-specific objectives developed since the previous permit. These limits will become effective if the site-specific objective is adopted and becomes legally effective during the permit term. The standards-setting process for copper addressed antidegradation, and therefore, an analysis in this permit is necessary.

7. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. In this Order, all effluent limitations are at least as stringent as those in the previous Order.

8. **Monitoring and Reporting Requirements.** 40 CFR §122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC Sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The MRP may be amended by the Executive Officer pursuant to USEPA regulations at 40 CFR §122.62, 122.63, and 124.5.

D. Impaired Water Bodies on CWA 303(d) List

In November 2006, the USEPA approved a revised list of impaired water bodies prepared by the State [hereinafter referred to as the 303(d) list], pursuant to provisions of CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The Carquinez Strait is listed as an impaired water body for chlordane, DDT, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, PCBs, dioxin-like PCBs and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads and associated waste load allocations.

1. Total Maximum Daily Loads

The Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list in the Carquinez Strait within the next ten years. Future review of the 303(d)-list for the Carquinez Strait may provide schedules or result in revision of the schedules for adoption of TMDLs.

2. Waste Load Allocations

The TMDLs will establish waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, and will result in achieving the water quality

standards for the waterbodies. Final WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.

3. Implementation Strategy

The Regional Water Board's strategy to collect water quality data and to develop TMDLs is summarized below:

a. **Data Collection.** The Regional Water Board has given dischargers to the Bay the option to collectively assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least their respective levels of concern or WQOs/WQC. This collective effort may include development of sample concentration techniques for approval by the USEPA. The Regional Water Board will require dischargers to characterize the pollutant loads from their facilities into the water-quality limited waterbodies. The results will be used in the development of TMDLs, and may be used to update or revise the 303(d) list or change the WQOs/WQC for the impaired waterbodies including Carquinez Strait.

b. **Funding Mechanism.** The Regional Water Board has received, and anticipates continuing to receive, resources from Federal and State agencies for TMDL development. To ensure timely development of TMDLs, the Regional Water Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.

E. Other Plans, Polices and Regulations

This Order is also based on the following plans, polices, and regulations:

1. The Federal *Water Pollution Control Act*, Sections 301 through 305, and 307, and amendments thereto, as applicable (CWA);

2. The State Water Board's March 2, 2000 *Policy for Implementation of Toxics Standards for Inland Surface Water Enclosed Bays, and Estuaries of California*; the USEPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* or CTR, 40 C.F.R. §131.38(b) and amendments;

3. The USEPA's *Quality Criteria for Water* [EPA 440/5-86-001, 1986] and subsequent amendments (the USEPA Gold Book);

4. Applicable federal regulations [40 CFR §§ 122 and 131];

5. 40 CFR §131.36(b) and amendments [Federal Register Volume 60, Number 86, 4 May 1995, pages 22229-22237];

6. USEPA's December 10, 1998 National Recommended Water Quality Criteria compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];

7. USEPA's December 27, 2002 Revision of National Recommended Water Quality Criteria compilation [Federal Register Vol. 67, No. 249, pp. 79091-79095]; and

8. Guidance provided with State Water Board Orders remanding permits to the Regional Water Board for further consideration.

9. Time Schedule Order No. R2-2005-0057 to Upgrade and Repair its Wastewater Treatment Facility. (Regional Water Board, October 19, 2005)

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the NPDES regulations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR §122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR §122.44(d)(1)(vi).

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows.

A. Discharge Prohibitions

1. **Discharge Prohibitions III.A (No discharge other than that described in this Order):** This prohibition is the same as in the previous permit and is based on California Water Code section 13260, which requires filing a Report of Waste Discharge (ROWD) before discharges can occur. Discharges not described in the ROWD, and subsequently in the Order, are prohibited.

2. **Discharge Prohibition III.B. (Average dry weather flow not to exceed dry weather design capacity):** This prohibition is based on the design treatment capacity of the wastewater treatment facility upon completion of the requirements of Time Schedule Order No. R2-2005-0057. Exceedance of the treatment plants' average dry weather flow design capacity of 0.033 mgd may result in lowering the reliability of achieving compliance with water quality requirements.

3. **Discharge Prohibitions III.C (No discharge receiving less than 10:1 dilution):** This prohibition is the same as in the previous permit and is based on Discharge Prohibition No. 1 from Table 4-1 of the Basin Plan, which prohibits discharges that do not receive a minimum 10:1 initial dilution. Further, this Order allows a 10:1 dilution credit in the calculation of some water quality based effluent limitations, and these limits would not be protective of water quality, if the discharge did not actually achieve a 10:1 minimum initial dilution.

4. **Discharge Prohibition III.D. (No bypass except under the conditions at 40 CFR §122.41 (m)(4)(i)(A)(B)-(C):** This prohibition is based on the NPDES regulations expressed at 40 CFR §122.41 (m)(4).

5. **Discharge Prohibition III. E (No sanitary sewer overflows to waters of the United States).** Discharge Prohibition No. 15 from Table 4-1 of the Basin Plan, and the Clean Water Act prohibit the discharge of wastewater to surface waters except as authorized under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations that are necessary to achieve water quality standards. [33 U.S.C. § 1311 (b)(1)(B and C)]. Therefore, a sanitary sewer overflow that results in the discharge of raw sewage, or sewage not meeting secondary treatment requirements is prohibited under the Clean Water Act and the Basin Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

NPDES regulations at 40 CFR §122.44(a) require that permits include applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR §133 and/or Best Professional Judgment (BPJ) in accordance with 40 CFR §125.3.

Secondary Treatment Regulations, which are specified in 40 CFR §133, apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

The Order is retaining the following technology based effluent limitations, applicable to Discharge Point 001, from Order No. R2-2003-0009.

Table F-6. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD5	mg/L	30	45	---	---	---
TSS	mg/L	30	45	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH	s.u.	---	---	---	6.0	9.0
Total Residual Chlorine	mg/L	---	---	---	---	0.0
Total Coliform	MPN/100 mL	240	---	10,000	---	---

a. **Oil and Grease.** The limitations established for oil and grease are levels attainable by secondary treatment and are required by the Basin Plan (Table 4-2) for all discharges to inland surface waters and enclosed bays and estuaries of the Region.

b. **pH.** The pH limitation is retained from the previous Order and is required by USEPA's Secondary Treatment Regulation at 40 CFR §133 and by the Basin Plan (Table 4-2).

c. **BOD_5 and TSS.** Effluent limitations for BOD_5 and TSS, including the 85% removal requirement, are required by 40 CFR §133 and Table 4-2 of the Basin Plan, and are retained from the previous Order.

d. **Total Colifom Bacteria.** Effluent limitations for total coliform bacteria are retained from Order R2-2003-0009. These limitations reflect conventional pollutant limitations established by Table 4-2 of the Basin Plan, and applicable water quality objectives for water contact recreation, established by Table 3-1 of the Basin Plan, and are applied as end-of-pipe effluent limitations.

e. **Setteable Matter.** The technology based effluent limitations for settleable matter are not retained from Order No. R2-2003-0009, per the 2004 Basin Plan amendment.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

a. NPDES regulations at 40 CFR §122.44(d)(1)(i) require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard (Reasonable Potential). The process for determining Reasonable Potential and, when necessary, calculating WQBELs is intended to (1) protect the designated beneficial uses of the receiving water specified in the Basin Plan, and (2) achieve applicable WQOs and WQC that are contained in the California Toxics Rule (CTR), National Toxics Rule (NTR), Basin Plan, and other State plans and policies.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

(1) **NPDES Regulations.** NPDES regulations at 40 CFR §122.45(d) state: "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works." 40 CFR §122.45(d)2 specifies that discharge limitations for POTWs shall be stated as average weekly limitations and average monthly limitations, unless impracticable.

(2) **SIP.** The SIP (Section 1.4) requires WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR §131.38; and the NTR, established by USEPA at 40 CFR §131.36. Some pollutants have WQC/WQOs established by more than one of these three sources.

a. Applicable Beneficial Uses. Beneficial uses applicable to Carquinez Strait are as follows.

Table F-7. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Carquinez Strait	Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Industrial Service Supply (IND) Fish Migration (MIGR) Navigation (NAV) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Fish Spawning (SPWN) Wildlife Habitat (WILD)

b. Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states, in part, that "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part that "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

c. CTR. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region, although Tables 3-3 and 3-4 of the Basin Plan include numeric objectives for certain of these priority toxic pollutants, which supersede criteria of the CTR (except in the South Bay south of the Dumbarton Bridge).

d. NTR. The NTR establishes numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including Suisun

Bay and the Delta. These criteria of the NTR are applicable to the Carquinez Strait, the receiving water for this Discharger.

e. **Technical Support Document for Water Quality-Based Toxics Controls.** Where numeric objectives have not been established or updated in the Basin Plan, NPDES regulations at 40 CFR §122.44(d) require that WQBELs be established based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQOs to fully protect designated beneficial uses.

To determine the need for and, when necessary, establish WQBELs, the Regional Water Board staff has followed the requirements of applicable NPDES regulations, including 40 CFR §122 and §131, as well as guidance and requirements established by the Basin Plan; USEPA's *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991); and the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the SIP, 2005).

f. **Basin Plan Receiving Water Salinity Policy.** The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The receiving water for this Discharger, the Carquinez Strait, is an estuarine environment based on salinity data generated through the Regional Monitoring Program (RMP) at the Pacheco Creek (BF10) sampling station between 1993 and 2001. In that period, the minimum salinity was 0.0 ppt, the maximum salinity was 12.8 ppt, and the average salinity was 4.4 ppt. As the salinity was between 1 and 10 ppt in 33 percent of receiving water samples, both the freshwater and saltwater criteria from the Basin Plan, NTR, and CTR are applicable to this discharge.

g. **Site-Specific Metals Translators.** Because NPDES regulations at 40 CFR §122.45(c) require that effluent limitations for metals be expressed as total recoverable metal, and applicable WQC for metals are typically expressed as dissolved metal, factors or translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators that are used in NPDES permitting activities; however, site-specific conditions such as water temperature, pH, suspended solids, and organic carbon greatly impact the form of metal (dissolved, filterable, or otherwise) that is present in the water, and therefore available to cause toxicity. In general, the dissolved form of the metals is more available and more toxic to aquatic life than filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective WQOs.

For deep water discharges to the Carquinez Strait, the Regional Water Board staff used the following translators for copper and nickel, based on recommendations of the Clean Estuary Partnership's (CEPs) *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). In determining the need for and calculating WQBELs for all other metals, the Regional Water Board staff used default translators established by the USEPA in the CTR at 40 CFR §131.38(b)(2), Table 2.

Cu and Ni Translators for Deepwater Discharges to the Carquinez Strait	Copper		Nickel	
	AMEL Translator	MDEL Translator	AMEL Translator	MDEL Translator
	0.38	0.67	0.27	0.57

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR §122.44(d)(1)(i) require permits to include WQBELs for all pollutants (non-priority and priority) "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any narrative or numeric criteria within a State water quality standard." Thus, assessing whether a pollutant has "reasonable potential" is the fundamental step in determining whether or not a WQBEL is required. For non-priority pollutants, Regional Water Board staff used available monitoring data; the receiving water's designated beneficial uses, and/or previous permit pollutant limitations to determine Reasonable Potential. For priority pollutants, Regional Water Board staff used the methods prescribed in Section 1.3 of the SIP to determine if the discharge from the Port Costa facility demonstrates Reasonable Potential as described below in sections 3.a – 3.e.

a. Reasonable Potential Analysis

Using the methods prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent data to determine if the discharge from the Port Costa facility demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC established by the USEPA in the NTR and CTR. The Basin Plan objectives and CTR criteria are shown in Appendix A of this Fact Sheet.

b. Reasonable Potential Methodology

Using the methods and procedures prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent and background data and the nature of facility operations to determine if the discharge has Reasonable Potential to cause or contribute to exceedances of applicable Site-Specific Objectives or WQC. Appendix A of this Fact Sheet shows the stepwise process described in Section 1.3 of the SIP.

The RPA projects a maximum effluent concentration (MEC) for each pollutant based on existing data, while accounting for a limited data set and effluent variability. There are three triggers in determining Reasonable Potential.

(1) The first trigger is activated if the MEC is greater than or equal to the lowest applicable WQO (MEC ≥ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has Reasonable Potential, and a WQBEL is required.

(2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B > WQO), and the pollutant is detected in any of the effluent samples (MEC > ND).

(3) The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO/WQC. A limitation may be required under certain circumstances to protect beneficial uses.

c. Effluent Data

The Regional Water Board's August 6, 2001, letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (hereinafter referred to as the Regional Water Board's August 6, 2001, Letter—available online; see Standard Language and Other References Available Online, below). to all permittees, formally required the Discharger (pursuant to Section 13267 of the California Water Code) to initiate or continue monitoring for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed this effluent data and the nature of the Port Costa facility to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data collected by the Discharger from June 2002 through March 2007 for most inorganic pollutants. No effluent data was collected for organic pollutants.

d. Ambient Background Data

Ambient background values are used in the RPA and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. The RMP station at Yerba Buena Island, located in the Central Bay, has been monitored for most of the inorganic (CTR constituent numbers 1–15) and some of the organic (CTR constituent numbers 16–126) toxic pollutants, and, with the exception of total ammonia, this data from the RMP was used as background data in performing the RPA for this Discharger. Ammonia WQBELs were calculated using ambient background data from the RMP station at Pacheco Creek, the station closest to the discharge point.

Not all the constituents listed in the CTR have been analyzed by the RMP. These data gaps are addressed by the Board's August 6, 2001, Letter. The Board's August 6, 2001, Letter formally requires dischargers (pursuant to Section 13267 of the California Water Code) to conduct ambient background monitoring and effluent monitoring for those

constituents not currently monitored by the RMP and to provide this technical information to the Regional Water Board.

On May 15, 2003, a group of several San Francisco Bay Region dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled *San Francisco Bay Ambient Water Monitoring Interim Report* (2003). This study includes monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP. The RPA was conducted and the WQBELs were calculated using RMP data from 1993 through 2003 (inorganics and organics) at the Yerba Buena Island and 1993 – 2001 (ammonia) at Pacheco Creek RMP stations, and additional data from the BACWA *Ambient Water Monitoring: Final CTR Sampling Update* (2004) for the Yerba Buena Island RMP station. The Discharger may utilize the receiving water study provided by BACWA to fulfill all requirements of the August 6, 2001, Letter for receiving water monitoring in this Order.

e. Reasonable Potential Determination

The MECs, most stringent applicable WQOs/WQC, and background concentrations used in the RPA are presented in the following table, along with the RPA results (yes or no) for each pollutant analyzed. Reasonable Potential was not determined for all pollutants, as there are not applicable WQOs/WQC for all pollutants, and monitoring data was not available for others. RPA results are shown below and in Appendix A of this Fact Sheet. Based on a review of the effluent data collected during the previous permit term, the pollutants that exhibit Reasonable Potential are cadmium, copper, mercury, and ammonia.

Table F-8. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	MEC or Minimum DL [1][2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
1	Antimony	**0.52**	4300	1.8	No
2	Arsenic	Not Available	36	2.81	No
3	Beryllium	< 0.5	No Criteria	0.215	Ud
4	Cadmium	**1.3**	1.1	0.16	**Yes**
5a	Chromium (III)	**0.58**	200	Not Available	Ud
5b	Chromium (VI)	Not Available	11	4.4	Ud
6	Copper	**23**	7.2	2.55	**Yes**
7	Lead	**1.48**	3.0	0.80	No
8	Mercury (303d listed)	**0.044**	0.025	0.0086	**Yes**
9	Nickel	**27**	30	3.7	No
10	Selenium	Not Available	5	0.39	Ud
11	Silver	**0.34**	2.2	0.052	No
12	Thallium	< 0.5	6.3	0.21	No
13	Zinc	**23**	86	5.1	No
14	Cyanide	**0.04**	1	< 1.0	No
15	Asbestos	Not Available	No Criteria	Not Available	Ud
16	2,3,7,8-TCDD (303d listed)	Not Available	1.4E-08	Not Available	Ud
16-TEQ	Dioxin TEQ (303d listed)	Not Available	1.4E-08	7.10E-08	Ud
17	Acrolein	Not Available	780	< 0.5	Ud
18	Acrylonitrile	Not Available	0.66	0.03	Ud

CTR #	Priority Pollutants	MEC or Minimum DL [1][2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
19	Benzene	Not Available	71	< 0.05	Ud
20	Bromoform	Not Available	360	< 0.5	Ud
21	Carbon Tetrachloride	Not Available	4.4	0.06	Ud
22	Chlorobenzene	Not Available	21000	< 0.5	Ud
23	Chlorodibromomethane	Not Available	34	< 0.05	Ud
24	Chloroethane	Not Available	No Criteria	< 0.5	Ud
25	2-Chloroethylvinyl ether	Not Available	No Criteria	< 0.5	Ud
26	Chloroform	Not Available	No Criteria	< 0.5	Ud
27	Dichlorobromomethane	Not Available	46	< 0.05	Ud
28	1,1-Dichloroethane	Not Available	No Criteria	< 0.05	Ud
29	1,2-Dichloroethane	Not Available	99	0.04	Ud
30	1,1-Dichloroethylene	Not Available	3.2	< 0.5	Ud
31	1,2-Dichloropropane	Not Available	39	< 0.05	Ud
32	1,3-Dichloropropylene	Not Available	1700	Not Available	Ud
33	Ethylbenzene	Not Available	29000	< 0.5	Ud
34	Methyl Bromide	Not Available	4000	< 0.5	Ud
35	Methyl Chloride	Not Available	No Criteria	< 0.5	Ud
36	Methylene Chloride	Not Available	1600	22	Ud
37	1,1,2,2-Tetrachloroethane	Not Available	11	< 0.05	Ud
38	Tetrachloroethylene	Not Available	8.9	< 0.5	Ud
39	Toluene	Not Available	200000	< 0.3	Ud
40	1,2-Trans-Dichloroethylene	Not Available	140000	< 0.5	Ud
41	1,1,1-Trichloroethane	Not Available	No Criteria	< 0.5	Ud
42	1,1,2-Trichloroethane	Not Available	42	< 0.05	Ud
43	Trichloroethylene	Not Available	81	< 0.5	Ud
44	Vinyl Chloride	Not Available	525	< 0.5	Ud
45	2-Chlorophenol	Not Available	400	< 1.2	Ud
46	2,4-Dichlorophenol	Not Available	790	< 1.3	Ud
47	2,4-Dimethylphenol	Not Available	2300	< 1.3	Ud
48	2-Methyl- 4,6-Dinitrophenol	Not Available	765	< 1.2	Ud
49	2,4-Dinitrophenol	Not Available	14000	< 0.7	Ud
50	2-Nitrophenol	Not Available	No Criteria	< 1.3	Ud
51	4-Nitrophenol	Not Available	No Criteria	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	Not Available	No Criteria	< 1.1	Ud
53	Pentachlorophenol	Not Available	0.0059	< 1.0	Ud
54	Phenol	Not Available	4600000	< 1.3	Ud
55	2,4,6-Trichlorophenol	Not Available	6.5	< 1.3	Ud
56	Acenaphthene	Not Available	2700	0.0019	Ud
57	Acenaphthylene	Not Available	No Criteria	0.00053	Ud
58	Anthracene	Not Available	110000	0.0005	Ud
59	Benzidine	Not Available	0.00054	< 0.0015	Ud
60	Benzo(a)Anthracene	Not Available	0.049	0.0053	Ud
61	Benzo(a)Pyrene	Not Available	0.049	0.00147	Ud
62	Benzo(b)Fluoranthene	Not Available	0.049	0.0046	Ud
63	Benzo(ghi)Perylene	Not Available	No Criteria	0.0027	Ud
64	Benzo(k)Fluoranthene	Not Available	0.049	0.0015	Ud
65	Bis(2-Chloroethoxy)Methane	Not Available	No Criteria	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	Not Available	1.4	< 0.3	Ud
67	Bis(2-Chloroisopropyl)Ether	Not Available	170000	Not Available	Ud
68	Bis(2-Ethylhexyl)Phthalate	Not Available	5.9	0.091	Ud
69	4-Bromophenyl Phenyl Ether	Not Available	No Criteria	< 0.23	Ud
70	Butylbenzyl Phthalate	Not Available	5200	0.0056	Ud

CTR #	Priority Pollutants	MEC or Minimum DL [1][2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
71	2-Chloronaphthalene	Not Available	4300	< 0.3	Ud
72	4-Chlorophenyl Phenyl Ether	Not Available	No Criteria	< 0.3	Ud
73	Chrysene	Not Available	0.049	0.0024	Ud
74	Dibenzo(a,h)Anthracene	Not Available	0.049	0.00064	Ud
75	1,2-Dichlorobenzene	Not Available	17000	< 0.8	Ud
76	1,3-Dichlorobenzene	Not Available	2600	< 0.8	Ud
77	1,4-Dichlorobenzene	Not Available	2600	< 0.8	Ud
78	3,3 Dichlorobenzidine	Not Available	0.077	< 0.001	Ud
79	Diethyl Phthalate	Not Available	120000	< 0.24	Ud
80	Dimethyl Phthalate	Not Available	2900000	< 0.24	Ud
81	Di-n-Butyl Phthalate	Not Available	12000	0.016	Ud
82	2,4-Dinitrotoluene	Not Available	9.1	< 0.27	Ud
83	2,6-Dinitrotoluene	Not Available	No Criteria	< 0.29	Ud
84	Di-n-Octyl Phthalate	Not Available	No Criteria	< 0.38	Ud
85	1,2-Diphenylhydrazine	Not Available	0.54	0.0037	Ud
86	Fluoranthene	Not Available	370	0.011	Ud
87	Fluorene	Not Available	14000	0.0036	Ud
88	Hexachlorobenzene	Not Available	0.00077	0.000022	Ud
89	Hexachlorobutadiene	Not Available	50	< 0.3	Ud
90	Hexachlorocyclopentadiene	Not Available	17000	< 0.31	Ud
91	Hexachloroethane	Not Available	8.9	< 0.2	Ud
92	Indeno(1,2,3-cd)Pyrene	Not Available	0.049	0.004	Ud
93	Isophorone	Not Available	600	< 0.3	Ud
94	Naphthalene	Not Available	No Criteria	0.00255	Ud
95	Nitrobenzene	Not Available	1900	< 0.25	Ud
96	N-Nitrosodimethylamine	Not Available	8.1	< 0.3	Ud
97	N-Nitrosodi-n-Propylamine	Not Available	1.4	< 0.001	Ud
98	N-Nitrosodiphenylamine	Not Available	16	< 0.001	Ud
99	Phenanthrene	Not Available	No Criteria	0.0061	Ud
100	Pyrene	Not Available	11000	0.0194	Ud
101	1,2,4-Trichlorobenzene	Not Available	No Criteria	< 0.3	Ud
102	Aldrin	Not Available	0.00014	1.4E-07	Ud
103	Alpha-BHC	Not Available	0.013	0.000496	Ud
104	beta-BHC	Not Available	0.046	0.000413	Ud
105	gamma-BHC	Not Available	0.063	0.0007034	Ud
106	delta-BHC	Not Available	No Criteria	0.000053	Ud
107	Chlordane (303d listed)	Not Available	0.00059	0.00018	Ud
108	4,4'-DDT (303d listed)	Not Available	0.00059	0.000167	Ud
109	4,4'-DDE (linked to DDT)	Not Available	0.00059	0.000693	Ud
110	4,4'-DDD	Not Available	0.00084	0.000313	Ud
111	Dieldrin (303d listed)	Not Available	0.00014	0.000264	Ud
112	Alpha-Endosulfan	Not Available	0.0087	0.000031	Ud
113	beta-Endolsulfan	Not Available	0.0087	0.000069	Ud
114	Endosulfan Sulfate	Not Available	240	0.0000819	Ud
115	Endrin	Not Available	0.0023	0.00004	Ud
116	Endrin Aldehyde	Not Available	0.81	Not Available	Ud
117	Heptachlor	Not Available	0.00021	0.000019	Ud
118	Heptachlor Epoxide	Not Available	0.00011	0.000094	Ud
119-125	PCBs sum (303d listed)	Not Available	0.00017	0.00146	Ud
126	Toxaphene	Not Available	0.0002	Not Available	Ud
	Tributylin	Not Available	0.0074	0.002	Ud
	Total PAHs	Not Available	15	0.05145	Ud

CTR #	Priority Pollutants	MEC or Minimum DL [1][2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1][2] (µg/L)	RPA Results [3]
	Total Ammonia [4]	9600	1,240	200/70 [5]	Yes

Footnotes for Table F-8:
(1) The Maximum Effluent Concentration (MEC) and maximum background concentration are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (DL).
(2) The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.
(3) RPA Results = Yes, if MEC > WQO/WQC, B > WQO/WQC and MEC is detected, or Trigger 3;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud), if no criteria have been promulgated or there are insufficient data.
(4) See section IV.C.4.d of this Fact Sheet for an explanation of the WQOs for ammonia.
(5) Maximum background concentrations of 200 and 70 were used to calculate acute and chronic WQBELs, respectively

(1) Constituents with limited data. The Discharger has performed sampling and analysis for the constituents listed in the CTR. This data set was used to perform the RPA. In some cases, Reasonable Potential cannot be determined because effluent data are limited, or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

(2) Pollutants with No Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

4. WQBEL Calculations

a. Pollutants with Reasonable Potential

WQBELs were developed for the toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedances of applicable WQOs or WQC. The WQBELs were calculated based on appropriate WQOs/WQC and the appropriate procedures specified in Section 1.4 of the SIP. The WQOs or WQC used for each pollutant with Reasonable Potential are discussed below.

b. Dilution Credit

The SIP provides the basis for any dilution credit. The Port Costa WWTP outfall is designed to achieve a minimal dilution of 10:1. Based on a review of RMP data from local and Central Bay stations, there is variability in the receiving water, and the hydrology of the receiving water itself is very complex. Thus there is uncertainty associated with the representative nature of the appropriate ambient background data for effluent limit calculations. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may nay be limited or denied on a pollutant-by-pollutant basis...." Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis...."

The Regional Water Board finds that a conservative 10:1 dilution credit for non-bioaccumulative priority pollutants, and a zero dilution credit for bioaccumulative priority pollutants are necessary for protection of beneficial uses. The detailed basis for each are explained below.

(1) For certain bioaccumulative pollutants dilution credits are not included in calculating the final WQBELs. This decision is based on the concentrations of these pollutants in aquatic organisms, sediment, and the water column. The Regional Water Board placed selenium, mercury, and polychlorinated biphenyls (PCBs) on the CWA Section 303(d) list. USEPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'DDT to the CWA Section 303(d) list. A dilution credit is not allowed for mercury. The reasoning for these decisions is based on the following factors that suggest there is no more assimilative capacity in the Bay for these pollutants.

Samples of tissue taken from fish in the San Francisco Bay show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay, May 1997*). The Office of Environmental Health and Hazard Assessment (OEHHA) also completed a preliminary review of data in the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay.* The results of this study also showed elevated levels of chemical contaminants in fish tissues. In December 1994 OEHHA subsequently issued an interim consumption advisory covering certain fish species in the Bay. This advisory is still in effect for exposure to sport fish that are found to be contaminated with mercury, dioxins, and pesticides (e.g., DDT).

(2) Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Regional Water Board should consider whether mass-loading limits are limited to current levels. There were insufficient data for mercury to determine a mass load for this Discharger.

(3) For non-bioaccumulative constituents, a conservative allowance of 10:1 dilution (D=9) for discharges to the Bay has been assigned for protection of beneficial uses. The basis for using 10:1 is that it was granted in the previous permit. This 10:1 dilution ratio also follows the Basin Plan's Prohibition Number 1 from Table 4-1, which prohibits discharges with less than 10:1 dilution. The dilution credit is also based on SIP provisions, Section 1.4.2, that consider the following:

(a) A far-field background station is appropriate because the receiving water body (the Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. The SIP allows background to be determined on a discharge-by-discharge or water body-by-body basis (SIP 1.4.3). Consistent with the SIP, Regional Water Board staff have chosen to use a water body-by-body basis because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis.

(b) Because of the complex hydrology of the San Francisco Bay, a mixing zone has not been established. There are uncertainties inaccurately determining the mixing

zones for each discharge. The models that have been used to predict dilution have not considered the three-dimensional nature of the currents in the estuary resulting from the interaction of tidal flushes and seasonal fresh water outflows. Salt water is heavier than fresh water, colder saltwater from the ocean flushes in twice a day generally under the warmer fresh river waters that flow out annually. When these waters mix and interact, complex circulation patterns occur throughout the estuary but are most prevalent in the San Pablo, Carquinez Strait, and Suisun Bay areas. The locations change depending on the strength of each tide, and the variable rate of delta outflow. Additionally, sediment loads to the Bay from the Central Valley also change on a longer-term basis. These changes can result in changes to the depths of different parts of the Bay making some areas more shallow and/or other areas more seep. These changes affect flow patterns that in turn can affect the initial dilution achieved by a diffuser.

(c) The SIP allows a limited mixing zone and dilution credit for persistent pollutants. Discharges to the Bay are defined in the SIP as incompletely mixed discharges. Thus, dilution credit should be determined using site-specific information. The SIP 1.4.2.2 specifies that the Regional Water Board "significantly limit a mixing zone and dilution credit as necessary.... For example, in determining the extent of a mixing zone or dilution credit, the Regional Water Board shall consider the presence of pollutants in a discharge that are...persistent." The SIP defines persistent pollutants to be "substances fro which degradation or decomposition in the environment is nonexistent or very slow." The pollutants at issue here are persistent pollutants (e.g., copper). The dilution studies that estimate initial dilution do not address the effects of these persistent pollutants in the Bay environment, such as their long term effects on sediment concentrations. Though this concern would not apply to non-persistent pollutants like ammonia, cyanide, and some organic compounds, a conservative dilution credit is still appropriate because of the lack of near field receiving water data for these pollutants.

(d) In calculating WQBELS for total ammonia, a conservative 10;1 dilution ratio was used. However, ammonia is not a persistent pollutant, and the Basin Plan states: "In most instances, ammonia will be diluted or degraded to a nontoxic state fairly rapidly." As such, granting dilution credits based on actual initial dilution is protective of water quality. As the Discharger can comply with WQBELs for ammonia using a 10:1 dilution ratio, an actual initial dilution study was not undertaken.

d. Calculation of Pollutant Specific WQBELs

(1) Cadmium

(a) *Cadmium WQC.* The most stringent applicable WQC for cadmium, established by the Basin Plan for protection of aquatic life, are acute and chronic criteria of 3.7 and 1.1 µg/L, respectively.

(b) *RPA Results.* This Order establishes effluent limitations for cadmium, as the MEC of 1.3 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) *Cadmium WQBELs.* Final WQBELs for cadmium, calculated according to SIP procedures (and a coefficient of variation [CV] of 1.1), are an AMEL of 6.7 µg/L and an MDEL of 18 µg/L. The limitations take into account the deep water nature of the discharge, and are therefore based on a minimum initial dilution of 10 to 1, in accordance with the Basin Plan.

Table F-9. Effluent Limitations for Cadmium

Effluent Limitations for Cadmium		
	AMEL	MDEL
Based on SIP	6.7 µg/L	18 µg/L

(d) *Immediate Compliance Feasible.* Statistical analysis of effluent data for cadmium collected over the period of June 2002 through March 2007 shows that the 95th percentile (0.87 µg/L) is less than the AMEL (6.7 µg/L); the 99th percentile (1.6 µg/L) is less than the MDEL (18 µg/L); and the mean (0.27 µg/L) is less than the long term average of the projected normal distribution of the effluent data set after accounting for effluent variability (3.3 µg/L). Therefore, the Regional Water Board concludes that immediate compliance with final effluent limitations for cadmium is feasible, and final effluent limitations will become effective upon adoption of this Order.

(2) Copper

(a) *Copper WQC.* The chronic and acute marine WQC for copper from the Basin Plan and the CTR are 3.1 and 4.8 micrograms per liter (µg/L), respectively, expressed as dissolved metal. Regional Water Board staff converted these WQC to total recoverable metal using the site-specific translators of 0.38 (chronic) and 0.67 (acute), as recommended by the CEP's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). The resulting chronic water quality criterion of 8.2 µg/L and acute water quality criterion of 7.2 µg/L were used to perform the RPA.

(b) *RPA Results.* This Order establishes effluent limitations for copper because the MEC of 23 µg/L exceeds the WQC for copper, demonstrating Reasonable Potential by Trigger 1.

(c) *Copper WQBELs.* WQBELs are calculated based on the CTR's WQC and the site-specific WQOs recommended by the CEP's *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation* (2004). Both sets of criteria are expressed as total recoverable metal using the site-specific translators and water effects ratio (WER) of 2.4 recommended by the CEP. The following table compares effluent limitations for copper calculated according to SIP procedures (and a CV of 0.61) using the two sets of criteria described above. The limitations take into account the deep water nature of the discharge, and are

therefore based on a minimum initial dilution of 10 to 1, in accordance with the Basin Plan.

Table F-10. Effluent Limitations for Copper

Effluent Limitations for Copper		
	AMEL	MDEL
Based on CTR Criteria	73 µg/L	150 µg/L
Based on SSOs	58 µg/L	120 µg/L

(d) *Immediate Compliance Feasible.* Statistical analysis of effluent data for copper, collected over the period of June 2002 through March 2007, shows that the 95th percentile (18 µg/L) is less than the AMEL (73 µg/L); the 99th percentile (22 µg/L) is less than the MDEL (150 µg/L); and the mean (8.9 µg/L) is less than the long term average of the projected normal distribution of the effluent data set after accounting for effluent variability (47 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for copper is feasible; and final effluent limitations will become effective upon adoption of this Order.

(e) *Alternate Limitations for Copper.* As described in the CEP's *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective Determination* (December 2004), the Regional Water Board proposes to develop site-specific criteria for copper in non-ocean, marine waters of the Region. Proposed SSOs for copper are 2.5 and 3.9 µg/L as four-day and one-hour average (i.e., chronic and acute) criteria, respectively. If these SSOs for copper are adopted, final effluent limitations, calculated according to Section 1.4 of the SIP, using a WER of 2.4, would be an AMEL of 58 µg/L and an MDEL of 120 µg/L. If these SSOs for copper are adopted, the alternate effluent limitations will become immediately effective upon the adoption date, so long as the SSOs and their current justification remain unchanged.

(3) Mercury

(a) *Mercury WQC.* The most stringent applicable WQC for mercury, established by the Basin Plan for protection of saltwater aquatic life, are acute and chronic criteria of 2.1 and 0.025 µg/L, respectively.

(b) *RPA Results.* This Order establishes effluent limitations for mercury, as the MEC of 0.044 µg/L exceeds the applicable WQC for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) *Mercury WQBELs.* Final WQBELs for mercury, calculated according to SIP procedures (and a CV of 0.6), are an AMEL of 0.020 µg/L and an MDEL of 0.041 µg/L. Because mercury is a bioaccumulative pollutant, these limitations are calculated without credit for dilution.

Table F-11. Effluent Limitations for Mercury

Effluent Limitations for Mercury		
	AMEL	MDEL
Based on SIP	0.020 µg/L	0.041 µg/L

(d) *Immediate Compliance Infeasible.* The Discharger's Feasibility Study asserts that the facility cannot immediately comply with the final WQBELs for mercury. With insufficient effluent data to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with final effluent limitations is determined by comparing the MEC (0.044 µg/L) to the AMEL (0.020 µg/L) and the MDEL (0.041 µg/L). Based on this comparison, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final WQBELs for mercury.

(e) *Need for Cease and Desist Order.* Pursuant to State Water Board Order WQ-2007-0004, compliance schedules are not authorized for effluent limitations based on numeric objectives or criteria that were in effect prior to the SIP. This includes the Basin Plan criteria for mercury. Because it is infeasible for the Discharger to immediately comply with final WQBELs for mercury, the Discharger will discharge in violation of this Order. Therefore, a Cease and Desist Order has been adopted concurrently with this Order. The Cease and Desist Order is necessary to ensure that the Discharger achieves compliance; and it establishes time schedules for the Discharger to complete necessary investigative, preventive, and remedial actions to address its imminent and threatened violations. However, if approved, requirements under the mercury TMDL will supersede the Cease and Desist Order.

(4) Ammonia

(a) *Ammonia WQC.* The Basin Plan contains WQOs for un-ionized ammonia of 0.025 milligrams per liter (mg/L) as an annual median, 0.16 mg/L as a maximum north of the Golden Gate Channel, and 0.4 mg/L as a maximum south of the Golden Gate Channel. The WQOs are translated from un-ionized ammonia concentrations to equivalent total ammonia concentrations (as nitrogen), since (1) sampling and laboratory methods are not available to analyze for un-ionized ammonia; and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on the pH, salinity and temperature of the receiving water.

To translate the Basin Plan unionized ammonia objective, Regional Water Board staff used pH, salinity and temperature data from March 1993 to August 2001 from the Pacheco Creek RMP station, the nearest RMP station to the outfall. The following equation was used to determine the fraction of total ammonia in a discharge that would be converted to the toxic un-ionized form in freshwater (USEPA, 1999, *Update of Ambient Water Quality Criteria for Ammonia*, EPA Publication No. 822-R-99-014):

$$\text{For salinity} < 1 \text{ ppt: fraction of } NH_3 = 1/1+10^{(pK-pH)}$$

Where:

pK = 0.09018 + 2729.92/(T+273)
T = temperature in degrees Celsius

To convert the Basin Plan's chronic un-ionized ammonia WQO to an equivalent total ammonia concentration, the median un-ionized ammonia fraction at the Pacheco Creek monitoring station was used. To convert the Basin Plan's acute un-ionized ammonia WQO to an equivalent total ammonia concentration, the 90th percentile un-ionized ammonia fraction at Pacheco Creek was used. Using the 90th percentile and median to express the acute and chronic un-ionized ammonia WQOs as equivalent total ammonia concentrations is consistent with USEPA guidance on translating dissolved metal WQOs to total recoverable metal WQOs (USEPA, 1996, *The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion,* EPA Publication Number 823-B-96-007). The equivalent total ammonia acute and chronic WQOs are 4.66 mg/L and 1.24 mg/L, respectively.

(b) *RPA Results.* The SIP methodology was used to perform the RPA and to calculate effluent limitations. To set limitations for toxic pollutants (section 4.5.5.2), the Basin Plan indicates that WQBELs shall be calculated according to the SIP. Section 3.3.20 of the Basin Plan refers to ammonia as a toxic pollutant, and therefore, it is consistent with the Basin Plan to use SIP methodology to determine and establish effluent limitations for ammonia. This Order establishes effluent limitations for total ammonia because the MEC of 9.6 mg/L exceeds the most stringent, applicable WQO (1.24 mg/L) for this pollutant, demonstrating Reasonable Potential by Trigger 1.

(c) *WQBELs.* The total ammonia WQBELs calculated according to SIP procedures are an MDEL of 33 mg/L and an AMEL of 13 mg/L. To calculate total ammonia limits, some statistical adjustments were made because the Basin Plan's chronic WQO for un-ionized ammonia is based on an annual median, while chronic criteria are usually based on a 4-day average; also, the SIP assumes a monthly sampling frequency of 4 days per month to calculate effluent limitations based on chronic criteria. To use SIP methodology to calculate effluent limits for a Basin Plan objective that is based on an annual median, an averaging period of 365 days and a monitoring frequency of 30 days per month (the maximum daily sampling frequency in a month since the averaging period for a chronic criterion is longer than 30 days) were used. These statistical adjustments are supported by USEPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia*; published on December 22, 1999, in the Federal Register. A conservative dilution credit of 10:1 was used in calculating the ammonia WQBELs, as an actual initial dilution ratio for this Discharger was not available.

Following SIP methodology as guidance, Regional Water Board staff used the maximum ambient background total ammonia concentration to calculate effluent

limitations based on the acute criterion; and the median background total ammonia concentration to calculate effluent limitations based on the chronic criterion. Because the Basin Plan's chronic un-ionized ammonia objective is an annual median, the median background concentration is more representative of ambient conditions than a daily maximum.

Final WQBELs were calculated using a conservative dilution ratio of 10:1. Ammonia, however, is not a persistent pollutant and Regional Water Board staff believe it is appropriate to use actual initial dilution. The actual initial dilution ratio was not available at the time of permit reissuance. The Discharger will be required to perform a modeling study of the actual initial dilution ratio.

Table F-12. Effluent Limitations for Total Ammonia

Effluent Limitations for Total Ammonia		
	AMEL	**MDEL**
Based on SIP	13 mg/L	33 mg/L

(d) *Plant Performance and Attainability.* Statistical analysis of effluent data for total ammonia collected over the period of August 2002 through June 2007 shows that the 95th percentile (12 mg/L) is less than the AMEL (13 mg/L); the 99th percentile (18 mg/L) is less than the MDEL (33 mg/L); and the mean (5 mg/L) is less than the long-term average of the projected distribution of the effluent data set after accounting for effluent variability (16 mg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for ammonia is feasible; and final effluent limitations will become effective upon adoption of this Order.

f. Effluent Limit Calculations

The following table shows the WQBEL calculations for cadmium, copper, mercury, and total ammonia.

Table F-13. Effluent Limitation Calculations

PRIORITY POLLUTANTS	Cadmium	Copper		Mercury	Total Ammonia	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Basis and Criteria type	Basin Plan FW Aq Life	Basin Plan & CTR SW Aq Life	Alternate limits using SSOs (December 2004)	Basin Plan SW Aq Life	Basin Plan (Acute)	Basin Plan (Chronic)
CTR Criteria -Acute	-----	7.2	-----	-----	4660	
CTR Criteria -Chronic	-----	8.2	-----	-----		1240
SSO Criteria -Acute (December 2004) (Diss.)		-----	3.9			
SSO Criteria -Chronic (December 2004) (Diss.)		-----	2.5			
Water Effects ratio (WER)	1	2.4	2.4	1	1	
Lowest WQO	1.1	7.2		0.025	4660	1240
Site Specific Translator - MDEL		0.67	0.67	-----		
Site Specific Translator - AMEL		0.38	0.38	-----		
Dilution Factor (D) (if applicable)	9	9	9	0	9	9
No. of samples per month	4	4	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y
HH criteria analysis required? (Y/N)	N	N	N	Y	N	N
Applicable Acute WQO	3.7	17	13.97	2.1	4930	
Applicable Chronic WQO	1.1	20	15.79	0.025		1240
HH criteria	-----	-----	-----	0.051	N	N
Background (Conc for Aquatic Life calc)	0.16	2.6	2.6	0.0086	200	70
Background (Average Conc for Human Health calc)	-----	-----	-----	0.0025		
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N	N	Y	N	N
ECA acute	36	149	117	2.1	47500	
ECA chronic	10	173	135	0.025		11770
ECA HH				0.051		
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	Y	N	N
Avg of effluent data points	0.27	8.9	8.9		5086	5086
Std Dev of effluent data points	0.30	5.5	5.5		2876	2876
CV calculated	1.1	0.61	0.61	N/A	0.56542	0.56542
CV (Selected) - Final	1.1	0.61	0.61	0.60	0.56542	0.56542
ECA acute mult99	0.19	0.31	0.31	0.32	0.337	
ECA chronic mult99	0.35	0.52	0.52	0.53		0.934
LTA acute	6.8	46.9	36.7	0.7	16028	
LTA chronic	3	90	70	0.013		10992
minimum of LTAs	3.3	47	37	0.013	16028	10992
AMEL mult95	2.0	1.6	1.6	1.6	1.5	1.2
MDEL mult99	5.3	3.2	3.2	3.1	3.0	3.0
AMEL (aq life)	7	73	58	0.020	24338	12952
MDEL(aq life)	18	149	117	0.041	47500	32575
MDEL/AMEL Multiplier	2.61	2.03	2.03	2.01	1.95	2.52
AMEL (human hlth)				0.051		
MDEL (human hlth)				0.102		
minimum of AMEL for Aq. life vs HH	6.7	73.4	57.6	0.020	24338	12952
minimum of MDEL for Aq. Life vs HH	17.6	149.0	116.8	0.041	47500	32575
Current limit in permit (30-day average)	-----	-----	-----	-----	-----	-----
Current limit in permit (daily)	-----	-----	-----	-----	-----	-----
Final limit - AMEL	6.7	73	58	0.020	24338	12952
Final limit - MDEL	18	149	117	0.041	47500	32575
Max Effl Conc (MEC)	1.3	23	23	0.044	9800	9800

5. Whole Effluent Toxicity (WET)

a. Permit Requirements

This Order includes effluent limits for whole-effluent acute toxicity. All bioassays shall be performed according to the USEPA approved method in 40 CFR §46, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," currently 5th Edition. The Discharger is required to use the 5th Edition method for compliance determination upon the effective date of this Order.

b. Ammonia Toxicity

If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this has to be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and that the discharge is in compliance with the effluent limit for ammonia, then such toxicity does not constitute a violation of this effluent limit. This is based on the Basin Plan, at Chapter 3 under "Un-Ionized Ammonia." If ammonia toxicity is verified in the TIE, the Discharger may use an adjustment protocol approved by the Executive Officer for routine bioassay testing.

D. Final Effluent Limitations

1. Following is a summary of the technology-based and water quality-based effluent limitations established by this Order for Discharge Point E-001.

a. Effluent Limitations for Toxic Pollutants

Table F-14. Summary of Final Water Quality Based Effluent Limitations

Parameter	Units	Final Effluent Limits	
		AMEL	MDEL
Cadmium	µg/L	6.7	18
Copper [1]	µg/L	73	150
Mercury	µg/L	0.020	0.041
Total Ammonia	mg/L N	13.0	33.0

Footnotes for Table F-14:

(1) As described in this Fact Sheet, the Regional Water Board is proposing to develop SSOs for copper in non-ocean, marine waters of the Region. Based on proposed SSOs of 2.5 and 3.9 µg/L as four-day and one-hour average criteria, final effluent limitations would be an AMEL of 58 µg/L and an MDEL of 120 µg/L. If these SSOs for copper are adopted, the alternate effluent limitations will become immediately effective upon the adoption date, so long as the SSOs and their current justification remain unchanged.

E. Land Discharge Specifications

Not Applicable

F. Reclamation Specifications

Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Receiving Water Limitations V.A. (Surface Water Limitations)

These limitations are in the existing permit and are based on water quality objectives for physical, chemical, and biological characteristics of receiving waters from Chapter 3 of the Basin Plan.

B. Receiving Water Limitation V.B. (Ground Water Limitations)

Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a monitoring program by a discharger are to:

(a) Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,

(b) Facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge,

(c) Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and to

(d) Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

A. Influent Monitoring

The influent monitoring requirements are unchanged from Order R2-2003-0009.

B. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous permit. Changes in effluent monitoring requirements are summarized as follows.

(1) Monitoring for settleable solids is no longer required, as the effluent limitation for this parameter has not been retained by the Order.

(2) Specific monitoring requirements for arsenic, chromium (VI), cyanide, lead, nickel, selenium, silver, zinc, dieldrin, and 4,4,-DDE have been replaced with monitoring requirements for all priority pollutants once per the five year term of this Order.

(3) Routine monitoring in effluent is required for cadmium, copper, mercury, and total ammonia – those priority toxic pollutants with effluent limitations established by the Order. Monitoring for all other priority toxic pollutants must be conducted in accordance with methods described in the Regional Water Board's letter of August 6, 2001 – Requirements for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy.

C. Receiving Water Monitoring

Receiving water monitoring requirements include Standard Observations and are retained from the previous permit.

D. Other Monitoring Requirements

1. Sludge Monitoring.

Under agreement with Central Contra Costa Sanitary District (CCCSD), all solids from the facility's septic tank are transported to CCCSD, where they become part of the waste stream at this wastewater treatment plant. Therefore, this requirement does not apply.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which in accordance with 40 CFR §122.41 and §122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachments D and G of this Order.

NPDES regulations at 40 CFR §122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in this Order. 40 CFR §123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR §123.25, this Order omits federal conditions that address enforcement authority specified at 40 CFR §122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code 13387(e).

B. Monitoring and Reporting Requirements (Provision VI.B)

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (Attachment E), Standard Provisions and SMP, Part A (Attachment D) of the Permit. This

provision requires compliance with these documents, and is based on 40 CFR §122.63. The Standard Provisions and SMP, Part A are standard requirements in almost all NPDES permits issued by the Regional Water Board, including this Order. They contain definitions of terms, specify general sampling and analytical protocols, and set out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

C. Special Provisions

1. Reopener Provisions

These provisions are based on 40 CFR §123 and allow future modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future.

2. Special Studies and Additional Monitoring Requirements

a. Effluent Characterization Study

This Order does not include effluent limitations for the selected constituents addressed in the August 6, 2001 Letter that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the August 6, 2001 Letter and as specified in the MRP of this Order. If concentrations of these constituents increase significantly, the Discharger will be required to investigate the source of the increases and establish remedial measures, if the increases result in reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC. This provision is based on the Basin Plan and the SIP.

b. Optional Mass Offset Plan

This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to the Carquinez Strait. If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d) listed pollutants to the same receiving water body needs to be submitted for Board approval. The Board will consider any proposed mass offset plan and amend this Order accordingly.

3. Best Management Practices and Pollution Prevention

This provision is based on Chapter 4 of the Basin Plan and Section 2.4.5 of the SIP.

Additionally, on October 15, 2003, the Regional Water Board adopted Resolution R2-2003-0096 in support of a collaborative working approach between the Regional Water Board and BACWA, to promote Pollution Minimization Program development and excellence. Specifically, the Resolution embodies a set of eleven guiding principles that will be used to develop tools such as "P2 menus" for specific pollutants, as well as provide guidance in

improving P2 program efficiency and accountability. Key principles in the Resolution include promoting watershed, cross-program and cross-media approaches to pollution prevention, and jointly developing tools to assess program performance that may include peer reviews, self-audits or other formats.

Due to the size of the facility and its service area, the expectation of the Regional Water Board is that the annual report will include, at a minimum, a brief description of its treatment plant and service area, documentation of the continuation of its public outreach program, and identification of specific tasks and time schedules for future efforts.

4. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, Status Reports

This provision is based on the previous Order and the Basin Plan. See Section VI.C.4 of this Order for specific requirements.

b. Operations and Maintenance Manual, Review and Status Reports

This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous Order. See Section VI.C.4 of this Order for specific requirements.

c. Contingency Plan, Review and Status Reports

This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous Order. See Section VI.C.4 of this Order for specific requirements.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge Management Practices Requirement

This provision is based on the Basin Plan (Chapter 4) and 40 CFR §257 and 503.

b. Sanitary Sewer Overflows and Sewer System Management Plan

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ on May 2, 2006. This provision is to explain the Order's requirements as they relate to the Discharger's collection system, and to promote consistency with the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO DWRs) and the related Monitoring and Reporting Program (Order No. 2006-0003-DWQ).

6. Implementation Plan for Copper

The proposed Basin Plan copper SSO amendment includes implementation plans for source control of copper for the entire Bay region. This provision requires an action plan for implementation of source control requirements for wastewater treatment facilities once the alternate limits become effective.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Port Costa WWTP. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following a public notice in the Martinez News-Gazette on, or around, November 15, 2007

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **December 21, 2007.**

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	January 30, 2008
Time:	9:00 am
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/sanfranciscobay where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Adrienne Miller at (510) 622-2415 or ADMiller@waterboards.ca.gov

EXHIBIT B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CEASE AND DESIST ORDER NO. R2-2008-0006

REQUIRING THE CONTRA COSTA COUNTY SANITATION DISTRICT NO. 5 TO CEASE AND DESIST DISCHARGING WASTEWATER IN VIOLATION OF REQUIREMENTS TO WATERS OF THE STATE

WHEREAS the California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter "Regional Water Board"), finds that:

1. The Contra Costa County Sanitation District No. 5 (hereinafter "Discharger") owns and operates a wastewater treatment plant, located at the end of Canyon Lake Drive, Port Costa, Contra Costa County. The plant treats domestic wastewater from the community of Port Costa. It has a dry weather design capacity of 0.033 million gallons per day.

2. The wastewater discharge has been regulated by waste discharge requirements in Order No. R-2-2003-0009 (NPDES Permit No. CA0037885).

3. Concurrent with the adoption of this Cease and Desist Order, the Regional Water Board adopted Order No. R2-2008-0005 (hereinafter "Permit"), reissuing waste discharge requirements for the Discharger. The Permit contains prohibitions, limitations, and provisions regulating the discharge. The limitations include those listed in Table 1 below, among others.

Table 1: Permit Effluent Limits

Parameter	Final Effluent Limits in Permit		Monitoring Station
	Average Monthly Effluent Limit (µg/L)	Maximum Daily Effluent Limit (µg/L)	
Mercury	0.020	0.041	E-001

4. The Discharger submitted an infeasibility study demonstrating that it cannot comply with the effluent limits listed in Table 1. As stated in the Permit findings, the Regional Water Board concurs with the Discharger because the maximum effluent concentration exceeds the average monthly and daily maximum limits, 0.20 µg/L and 0.041 µg/L, respectively.

5. Water Code § 13301 authorizes the Regional Water Board to issue a Cease and Desist Order when it finds that a waste discharge is taking place, or threatening to take place, in violation of Regional Water Board requirements.

6. Because the Discharger will violate or threatens to violate required effluent limits, this Order is necessary to ensure that the Discharger achieves compliance. This Order establishes time schedules for the Discharger to complete necessary investigative, preventive, and remedial actions to address its imminent and threatened violations.

7. The time schedules in this Order are parameter-specific and intended to be as short as possible. They account for the considerable uncertainty in determining effective measures (e.g., pollution prevention and treatment plant upgrades) necessary to achieve compliance. This Order allows some time to first explore source control measures before requiring further actions, such as treatment plant upgrades, which are likely to be much more costly. The time schedules are based on reasonably expected times needed to implement source identification and upstream source control, evaluate success, identify on-site treatment alternatives if necessary, test and select from among alternatives, and construct plant upgrades. The Regional Water Board may revisit these assumptions as more information becomes available.

8. As part of the time schedules to achieve compliance, this Order requires the Discharger to comply with interim effluent limits, where feasible. These interim limits are intended to ensure that the Discharger maintains at least its existing performance while completing all tasks required during the time schedules. The interim limits are based on past performance or limits in previous orders, whichever are more stringent. If based on past performance, the interim limits represent the 99.87th percentile of actual measured discharge concentrations (three standard deviations from the mean).

   There is insufficient mercury effluent data to calculate a mean or standard deviation, and the maximum observed effluent concentration for the WWTP for the period from June 2002-March 2007 is 0.044 µg/L. The Discharger requested an interim mercury limit of 0.087 µg/L), which is based on secondary treatment performance of POTWs in the San Francisco Bay region as cited in the June 2001, Water Board Staff Report entitled *Statistical Analysis of Pooled Data From Regionwide Ultraclean Mercury Sampling for Municipal Dischargers*. The Regional Water Board grants this request, and this Order establishes the interim mercury effluent limitation at 0.087 µg/L.

9. This Order is an enforcement action and, as such, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code § 21000 et seq.) in accordance with 14 CCR § 15321.

10. The Regional Water Board notified the Discharger and interested persons of its intent to consider adoption of this Cease and Desist Order, and provided an opportunity to submit written comments and appear at a public hearing. The Regional Water Board, in a public hearing, heard and considered all comments.

IT IS HEREBY ORDERED, in accordance with Water Code § 13301, that the Discharger shall cease and desist from discharging and threatening to discharge wastes in violation of its Permit by complying with the following provisions:

1. Prescribed Actions. The Discharger shall comply with the required actions in Table 2 in accordance with the time schedules provided therein to comply with all effluent limits contained in the Permit. All deliverables listed in Table 2 shall be acceptable to the Executive Officer, who will review them for adequacy and compliance with the Table 2 requirements. The Discharger shall further implement all actions set forth in each deliverable, unless the Executive Officer finds the deliverable to be unacceptable.

2. Exceptions. The following exceptions apply to the parameter-specific time schedules and prescribed actions in Table 2.

   a. *Mercury*. The mercury-related time schedules and prescribed actions shall cease to be in effect upon the effective date of a permit* that supersedes the mercury limits in the Permit.

3. Reporting Delays. If the Discharger is delayed, interrupted, or prevented from meeting one or more of the time schedules in Table 2 due to circumstances beyond its reasonable control, the Discharger shall promptly notify the Executive Officer, provide the reasons and justification for the delay, and propose time schedules for resolving the delay.

4. Consequences of Non-Compliance. If the Discharger fails to comply with the provisions of this Order, the Executive Officer is authorized to take further enforcement action or to request the Attorney General to take appropriate actions against the Discharger in accordance with Water Code §§ 13331, 13350, 13385, and 13386. Such actions may include injunctive and civil remedies, if appropriate, or the issuance of an Administrative Civil Liability Complaint for Regional Water Board consideration.

5. Effective Date. This Order shall be effective on the effective date of the Permit.

* In November 2007, the Regional Water Board adopted a permit that will supersede existing mercury requirements and implement the wasteload allocations for municipal and industrial wastewater discharges identified in the San Francisco Bay Mercury TMDL that the Regional Water Board adopted in August 2006.

Table 2: Time Schedules and Prescribed Actions

Action	Deadline
	Mercury
a. Comply with the following interim effluent limits at Monitoring Station EFF-001: *Mercury*: Maximum daily effluent limit = 0.087 µg/L	Upon the effective date of this Order
b. If discharge data from the previous two years continue to show that the discharge is out of compliance (as defined in Section 2.4.5 of the State Implementation Policy) with the permit effluent limits, submit a plan for identifying all mercury sources to the discharge. Examples of potential mercury sources include dental offices, laboratories, medical facilities, fluorescent light tubes, thermometers, and electrical switches. The plan shall, at a minimum, include sampling influent waste streams to identify and quantify pollutant sources.	January 1, 2009
c. Implement the plan developed in action "b" within 30 days following the deadline for action "b," and submit by the deadline for this action a report that contains an inventory of the pollutant sources.	June 1, 2009
d. Submit a report documenting development and initial implementation of a program to reduce and prevent the pollutants of concern in the discharge. The program shall consist, at a minimum, of the following elements: i. Maintain a list of sources of pollutants of concern. ii. Investigate each source to assess the need to include it in the program. iii. Identify and implement targeted actions to reduce or eliminate discharges from each source in the program. iv. Develop and distribute, as appropriate, educational materials regarding the need to prevent sources to the sewer system.	January 1, 2010
e. Continue to implement the program described in action "d" and submit annual status reports that evaluate its effectiveness and summarize planned changes. Report whether the program has successfully brought the discharge into compliance with the effluent limits in the Permit. If not, identify and implement additional measures to further reduce discharges.	Annually each February 28 in Best Management Practices and Pollutant Minimization Report required by Permit Provision VI.C.3

Action	Deadline
	Mercury
f. If by February 28, 2011, discharge data continue to show the discharge is out of compliance (as defined in 2.4.5 of the State Implementation Policy) with the Permit effluent limits, submit a report, by the deadline for this action, identifying more aggressive actions to ensure compliance. These actions shall include, but not be limited to, reviewing options for pretreatment and upgrades to the treatment plant. The report shall identify an implementation schedule for investigating these options, selecting a preferred option, and implementing the chosen option. At a minimum, the report shall plan for the following activities: i. Bench scale testing or pilot scale testing or both ii. Development of preliminary design specifications iii. Development of final design specifications iv. Procurement of funding v. Acquisition of necessary permits and approvals vi. Construction	January 1, 2012
g. Implement the plan required in action "f" within 45 days following the deadline for action "f," and submit annual status reports.	Annually each January 30 in the Annual Self-Monitoring Report required by Permit Attachment E, Monitoring and Reporting Program
h. Submit documentation confirming complete plan implementation and comply with effluent limits in the Permit.	June 1, 2015

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 30, 2008.

Digitally signed by
Bruce Wolfe
Date: 2008.01.31
16:20:24 -08'00'

BRUCE H. WOLFE
Executive Officer